

ALEXANDRE CARMINOT

Engineering Student - Machine Learning & Medical Engineering

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EDUCATION

Master - Medical Engineering 09/2019 - Present
EPF Engineering School Paris Expected Graduation in 2025

- Engineering curriculum with a healthcare specialization: integrating core engineering principles, mathematics, programming, and machine learning with medical technology, device design, and healthcare informatics.

Computer Science - Exchange Program 09/2024 - Present
Tianjin University

- Focus on Algorithmic programming, machine learning , computer vision, and applied data science

Intelligent Medical Engineering - Exchange Program 09/2023 - 01/2024
Tianjin University

- Specialized in Precision medicine, neurosciences, brain-computer interfaces (BCI), medical imaging basics, and fundamentals of medical engineering.

SPECIALIZATION COURSES

Deep Learning and Advanced TensorFlow DeepLearning.AI	Advanced Machine Learning on Google Cloud Google
Advanced Medical Neuroscience Duke University	Machine Learning Specialization Stanford University & DeepLearning.AI

PROJECTS

BCI application - In Progress
Architecting a Brain-Computer Interface simulator that processes and interprets multimodal neurophysiological signals (EEG/MEG) for real-time virtual control applications

- Developing machine learning pipelines to classify motor imagery, cognitive load, and intent patterns from EEG/MEG datasets, enabling direct thought-to-action commands.
- Goal: Integrating real-time signal processing with virtual interfaces to enable intuitive control through neural signals

BCI Workshop - Tianjin University
Hand Movement Recognition (MATLAB)

- Developed and deployed a real-time hand gesture recognition system using flexion sensors and AI, classifying six unique static and dynamic patterns using pattern recognition algorithms. Demonstrated successful identification with 98% accuracy.

Disease Prediction Algorithm - Python
Self-developed an AI model to determine a disease based on a provided symptoms list. Currently predicts 41 common diseases using 131 distinct symptoms.

- Developed custom implementations of activation functions, loss calculations, and weight optimization using NumPy achieving 96% accuracy.
- Benchmarked model performance against an ensemble Model to ensure robustness and model reliability.

EXPERIENCE

AI Model Review Specialist 01/2024 - Present
Outlier.AI | Remote | Current

- Reviews and flags critical errors in logic and generated code in large language model outputs, enhancing model precision and alignment with user expectations.

Private Tutor and Esports Coach 06/2022 - 09/2023

- Led personalized tutoring sessions in Math and Physics for 10 students, strengthening foundational skills and boosting student confidence in subject mastery.
- Customized tutoring and coaching strategies to suit individual skill levels, resulting in improved student performance

Internship 06/2022 - 9/2022
Zen2050Maintenant Paris

- Developed and implemented interactive exhibition stands for Zen2050's annual event, creating eco-conscious games, climate-themed art, and educational activities that engaged visitors in sustainability initiatives.

ABOUT ME

As a student of engineering and medicine, my journey is deeply rooted in the intersection of these fields. Focusing on machine learning and medical engineering, I am driven by a passion for exploring the brain, neuroscience, and artificial intelligence. This passion has led me into the realms of brain-computer interfaces and neuro-engineering, where I apply my skills through various projects using Python, MATLAB, and C++ to explore the brain, the body, and the world.

FIND ME ONLINE

-  [Alexandre CARMINOT \[link\]](#)
-  [My Portfolio \[link\]](#)
-  [Alexandre CARMINOT \[link\]](#)

SKILLS

Programming
Python - C++ - Java - Docker - Git
MATLAB - HTML, CSS & JavaScript

Libraries
TensorFlow - Keras - MNE - Scikit
PyTorch - Seaborn - SciPy

Technical Skills
Machine Learning - Neurosciences
Deep Learning - CNN - NLP - LSTM
Computer-Vision

Engineering Skills
Problem Solving - Innovation - Analysis
Critical thinking - Device design

LANGUAGES

French Native, Voltaire Certification
English Expert, TOEIC (980/990)
Spanish Intermediate, B1
Chinese Elementrary, HSK3

PASSIONS & HOBBIES

- Martial Arts: Taekwondo (Red Belt), Judo (Brown Belt)
- Team sports: Rugby & Soccer
- Music: Piano (Playing for seven years)
- Science: Astronomy, Cosmology, Archaeology